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(12) **UK Patent Application** (19) **GB** (11) **2 283 006** (13) **A**

(43) Date of A Publication 26.04.1995

(21) Application No 9320880.9

(22) Date of Filing 11.10.1993

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(51) INT CL<sup>6</sup>

**B65D 30/02**

(52) UK CL (Edition N )

**B8K KWC K2K4 K2M**

**U1S S1436**

(56) Documents Cited

**EP 0317047 A2 DE 004304715 A1 DE 004241845 A1**

(58) Field of Search

**UK CL (Edition N ) B8K KWC**

**INT CL<sup>6</sup> A47G 29/06 , B65D 30/02 30/04 30/08 88/16 ,**

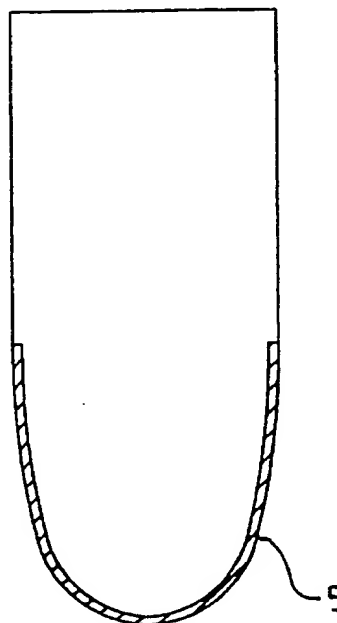
**B65F 1/06**

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(54) **A refuse sack with moisture absorbent lining**

(57) A refuse receptacle comprises a flexible bag or sack which may be used as a liner for a waste bin having a closed lower end and an open upper end and a moisture absorbent lining 5 over at least part of its internal surface in the region of the closed lower end. The lining prevents liquid waste which is in the sack from leaking out of the lower end of the sack and staining a floor covering or soiling the interior of the waste bin. The lining may be paper or cotton ; the sack may be plastics or paper. Where the sack is made of paper there may be a waterproof layer between the lining and the sack.

FIG 2



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FIG 1

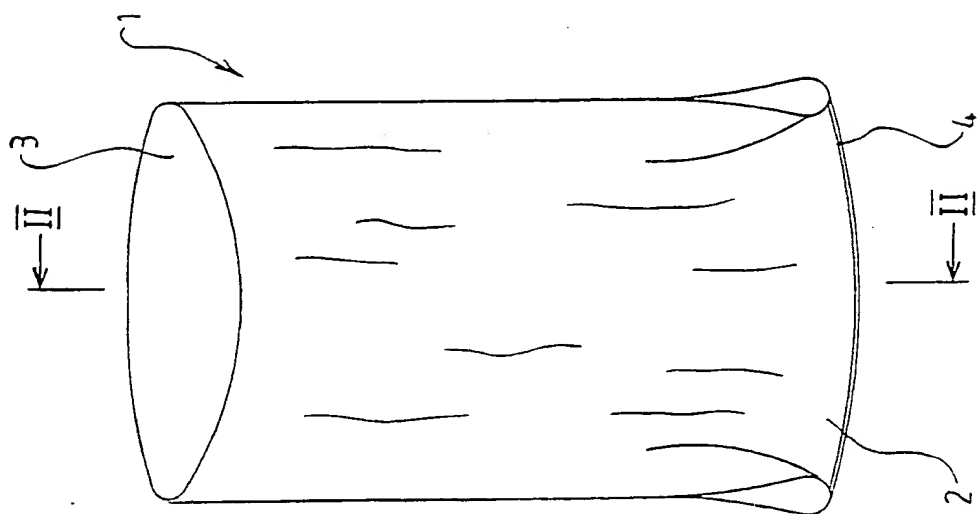


FIG 2

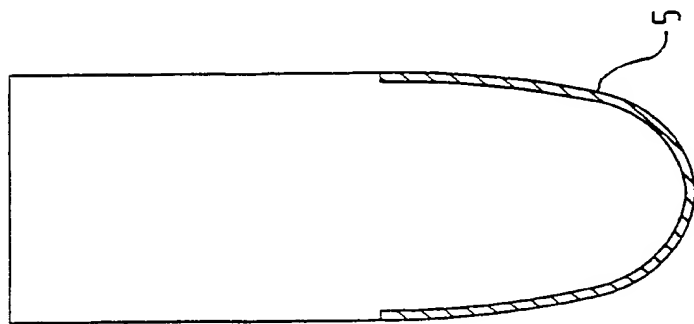
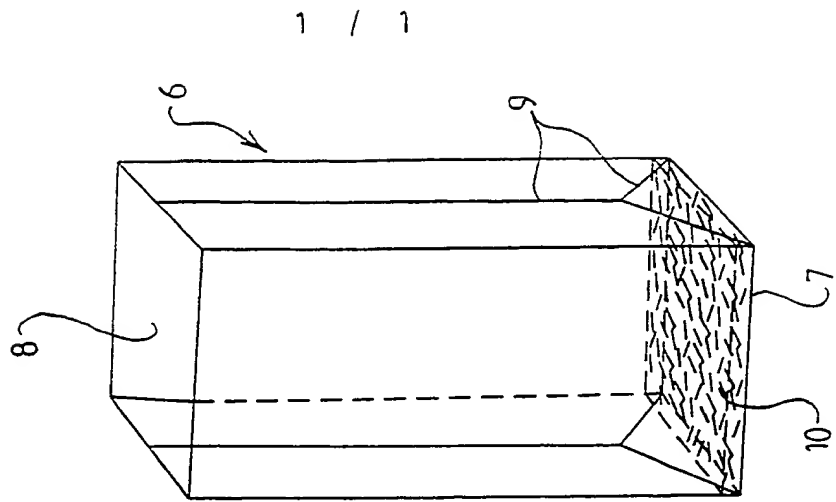


FIG 3



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**PATENTS ACT 1977****DESCRIPTION OF INVENTION****A Refuse Receptacle.**

THE PRESENT INVENTION relates to a refuse receptacle and more particularly to a receptacle in the form of a flexible bag or sack.

It is common practice for household waste to be bagged in plastic sacks prior to collection and subsequent disposal. This is also true to a large extent of rubbish which is generated on a larger scale in industry, such as in offices and in hospitals, schools and the like.

It is also well known to use one of these plastic sacks as a liner for a waste bin. This prevents the refuse collected in the bin from dirtying the inside of the bin and results in the refuse automatically being collected in the plastic sack which makes for convenient subsequent disposal without the need to transfer the refuse from the bin into a sack.

The plastic sacks which have been used for this purpose in the past have suffered from the problem that they are not leakproof and when liquid waste is received within the sack it is not uncommon for some of the liquid to leak from the sack, possibly as a result of the sack having been punctured by a sharp object received therein. In the domestic environment, where the sacks are used as bin liners, this results in the interior of the bin being soiled so that the bin needs to be cleaned when the sack of rubbish is removed therefrom if it is not to generate unpleasant odours and ultimately become a health hazard. In an office environment where small sacks are used as bin liners professional cleaners are commonly employed to empty

the waste bins on a daily basis and clean the offices generally. Disposable cups are often used for beverages in the office environment and these are, of course, disposed of in the sack which lines the waste bin. These cups commonly contain a small amount of liquid left in the bottom of the cup and this can leak from the sack and dirty the inside of the bin. If the waste bin is formed of metal, then the liquid may cause the bin to rust. Leakages of this type can also result in unpleasant smells if the bin is not cleaned regularly. Furthermore, when waste bins are emptied in an office environment the contents of several small waste bins are commonly emptied into a single, large sack ready for disposal. The sack is therefore carried from one location to another in the office during the emptying of several waste bins and if liquid waste is collected in the sack then this may well leak onto carpets within the office. It is then necessary for the professional cleaners to clean the carpets which is a time consuming, costly and sometimes difficult operation, particularly if the liquid which has leaked onto the carpet leaves a stain.

The present invention seeks to provide a refuse receptacle which addresses the problems discussed above.

According to the present invention there is provided a refuse receptacle comprising a flexible bag or sack suitable for use as a waste bin liner, the bag or sack having a closed lower end and an open upper end, the receptacle being provided with a lining of a moisture absorbent material over at least part of its internal surface in the region of said closed lower end.

The lining may be formed from paper or from cotton.

The receptacle may take the form of a sack formed from a plastics material or may take the form of a bag formed of paper.

Where the receptacle is formed of paper it may include a waterproof layer between the moisture absorbent lining and the internal surface of the paper bag.

Preferably the shape of the closed lower end of the receptacle corresponds to the shape of a waste bin with which the receptacle is intended to be used as a liner.

Thus the closed lower end of the receptacle may be of rectangular shape.

In order that the present invention may be more readily understood and so that further features thereof may be appreciated, the invention will now be described by way of example, with reference to the accompanying drawings in which:

FIGURE 1 is a perspective view of a refuse receptacle in the form of a sack in accordance with the present invention;

FIGURE 2 is a cross-sectional view taken on the line II-II of Figure 1; and

FIGURE 3 is a schematic, perspective view of a refuse receptacle in the form of a bag in accordance with this invention.

Figures 1 and 2 of the drawings illustrate a refuse receptacle in the form of a flexible plastics sack 1. The sack has a closed lower end 2 and an open upper end 3 and

may be of circular horizontal cross-section. Sacks of this general type are well known and may be formed by initially producing an elongate tube of thin plastics material which is folded and flattened and subsequently subjected to a welding process to produce weld lines extending transversely across the tube, these weld lines forming the closed bottom end 2 of the sack. In Figure 1 of the drawings a weld line 4 is illustrated, with the sack being folded appropriately at the ends of the weld line 4 in order to strengthen the corners of the bottom of the sack. Subsequent to the formation of the weld lines the length of tubing will be cut in order to form the individual sacks.

Sacks as described above are already well known and commonly used for the collection of refuse. However these sacks are liable to tear or be punctured if sharp objects are placed in the sack. Thus, any liquid waste present in the sack may well leak therefrom.

A refuse receptacle in accordance with this invention differs from the conventional refuse sack in that the lower, closed end of the sack is provided with a lining 5 over at least part of its internal surface. The lining 5 is formed from an absorbent material and may therefore be formed from paper or cotton pulp held in an appropriate retaining cover. The absorbent lining 5 will serve to hold any moisture or liquid inside the sack and prevent any such liquid from leaking out of the bottom of the sack.

It will be appreciated that sacks in accordance with this invention may be produced in any desired shape or size and in any desired colour or thickness. The sacks may be used as liners for waste bins and as larger "collector" sacks. The sacks may be produced from any desired plastics

material, although polyethylene is commonly used for conventional sacks and may therefore be a convenient material to use for the sacks according to this invention. The sacks may, if desired, be formed with handles at the open, upper end of the sack in order to facilitate disposal thereof. Thus the handles could constitute "ties" which are knotted together to close the upper end of the sack prior to disposal.

Figure 3 of the drawings illustrates a refuse receptacle in the form of a relatively stiff bag 6 which is formed from paper. Again the bag has a closed bottom end 7 and an open upper end 8. In horizontal cross-section the bag is generally rectangular. The bag may be formed in a conventional manner from a single sheet of paper which is folded and glued in order to produce the desired bag configuration. The side walls of the bag may have fold lines 9 which permit the bag to be reduced to a flattened condition which is, of course, more convenient for the purposes of packaging, storage and distribution prior to use of the bag.

The lower end 7 of the bag is, of course, also of rectangular configuration and is provided with a lining 10 on its internal surface. The lining 10 is again an absorbent lining which may be formed from paper or cotton pulp within an appropriate retaining cover. Whilst in the drawing the lining 10 is of rectangular form and extends only across the closed lower end 7 of the bag it is to be appreciated that the lining may, if necessary, extend up the walls of the bag.

It is well known that if a conventional paper bag of this type becomes damp or wet then its strength is significantly impaired and the paper will tear or break

very easily. The absorbent lining 10 will serve to retain any moisture or liquid which is in the bag and will help to prevent the bag itself from tearing as a resulting of becoming damp or wet. As a further improvement a layer of waterproof material may be provided between the lining 10 and the paper of the bag in order to prevent any moisture which is held in the lining 10 from being transferred to the paper bag.

It is envisaged that the paper bag version of this invention may find applications where there is serious concern about the affects of discarded plastics material on the environment or where official regulations stipulate that paper receptacles must be used.

The paper bag 6 may be designed so that it conforms to the shape and size of a particular waste bin and may conveniently be used as a waste bin liner.

With either the sack of Figures 1 and 2 or the bag of Figure 3, the absorbent lining may be impregnated with a scent or perfume which gives off a pleasant smell and masks unpleasant odours from rubbish in the sack or bag. The perfume or scent could be activated when the lining becomes wet or damp.

It will be appreciated that various modifications may be made to the designs disclosed above without departing from the scope of the present invention.



## CLAIMS

1. A refuse receptacle comprising a flexible bag or sack suitable for use as a waste bin liner, the bag or sack having a closed lower end and an open upper end, the receptacle being provided with a lining of a moisture absorbent material over at least part of its internal surface in the region of said closed lower end.
2. A refuse receptacle according to Claim 1 wherein the lining is formed from paper.
3. A refuse receptacle according to Claim 1 wherein the lining is formed from cotton.
4. A refuse receptacle according to any one of the preceding claims wherein the receptacle is in the form of a sack formed from a plastics material.
5. A refuse receptacle according to Claim 1, 2 or 3 wherein the receptacle is in the form of a bag formed of paper.
6. A refuse receptacle according to Claim 5 wherein the receptacle includes a waterproof layer between the moisture absorbent lining and the internal surface of the paper bag.
7. A refuse receptacle according to any one of the preceding claims wherein the shape of the closed lower end of the receptacle corresponds to the shape of a waste bin with which the receptacle is intended to be used as a liner.

8. A refuse receptacle according to Claim 7 wherein the closed lower end of the receptacle is of rectangular shape.
9. A refuse receptacle substantially as herein described with reference to and as shown in Figures 1 and 2 of the accompanying drawings.
10. A refuse receptacle substantially as herein described with reference to and as shown in Figure 3 of the accompanying drawings.
11. Any novel feature or combination of features disclosed herein.

Relevant Technical Fields

- (i) UK Cl (Ed.N) B8K (KWC)  
(ii) Int Cl (Ed.6) A47G 29/06; B65D 30/02, 30/04, 30/08, 88/16; B65F 1/06

Search Examiner  
M J RICHARDSON

Date of completion of Search  
16 JANUARY 1995

Databases (see below)

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

Documents considered relevant following a search in respect of Claims :-  
1-10

(ii) ONLINE DATABASES: WPI

Categories of documents

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Category	Identity of document and relevant passages	Relevant to claim(s)
X	EP 0317047 A2 (GUARDLINE DISPOSABLES) see especially column 3 lines 19-27	1-5
X	DE 4304715 A1 (HERHOF UMWELTTECHNIK) see Derwent Abstract	1-4, 7, 8
X	DE 4241845 A1 (DRUMM) see Derwent Abstract	1, 2, 5-8

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